

SEM	SET	PAPER CODE	TITLE OF THE PAPER
II	2014	14PEL2105	EMBEDDED SYSTEM – I (MICROCONTROLLERS AND PROGRAMMING WITH IDE'S)

**SECTION - A****Answer all the questions:****30 × 1 = 30****Choose the correct answer:**

- The internal RAM memory of the 8051 is
  - 32 bytes
  - 64 bytes
  - 128 bytes
  - 256 bytes
- Among the following registers which is not a control register
  - TCON
  - TMOD
  - SCON
  - SBUF
- Among the following statements which is true
  - Only registers RO or R1 may used for indirect addressing
  - Reset sets stack pointer to 06H.
  - It is possible to have immediate data as destination
  - Register to register moves using register addressing mode occur between R.O to R.T.
- When the 8051 is reset and the  $\overline{EA}$  line is high, the program counter points to the first program instruction in the
  - internal code memory
  - external code memory
  - internal data memory
  - external data memory
- Among the following 8051 assembly statements which statement will not clear the carry
  - CLR C
  - DIV
  - MUL
  - RLC

6. The only jump instruction which decides the jump based on the value of carry is
  - a) LJMP
  - b) CJNE
  - c) AJMP
  - d) none of the above
7. The alternate function of Pin P3.4 in 8051 is associated with
  - a) Timer 1
  - b) Timer 0
  - c) interrupt 0
  - d) interrupt 1
8. IDE stand for
  - a) integrated IC driven electronics
  - b) integrated IC development electronics
  - c) integrated development environment
  - d) none of the above
9. For a 16 bit compiler int data type range is
  - a)  $-32768$  to  $32767$
  - b)  $-32767$  to  $32768$
  - c)  $-2147483648$  to  $2147483647$
  - d) none of the above
10. A self contained block of statements that perform coherent task of some kind is called as
  - a) pointer
  - b) array
  - c) function
  - d) none of the above
11. In embedded-C, a preface value of zero means
  - a) the number is octal
  - b) leading zeros can be ignored
  - c) to comply with maximum output bit
  - d) none of the above
12. In embedded-C automatic variables are
  - a) only visible to the function in which they were declared
  - b) visible to main () function only
  - c) visible to all functions
  - d) invisible to all functions
13. Atmega 8 has an ADC of
  - a) 8 bit
  - b) 9 bit
  - c) 10 bit
  - d) 16 bit
14. The SRAM size of Atmega 8 is
  - a) 256 bytes
  - b) 512 bytes
  - c) 1k bytes
  - d) 2k bytes

15. Atmega 8 when used in ADC noise reduction mode, it stops the
- CPU
  - All I/O modules
  - both a and b
  - Asynchronous timer
16. Harvard architecture allows
- separate program memory but
  - separate data memory bus
  - both a and b
  - uses advanced protocol to multiplex data and program bus
17. The internal RC oscillator in Atmega 8's frequency output can be selected by programming
- OSCKOPT
  - OSCCAL
  - CKSTP
  - CKSEL
18. Among the following which is not a sleep mode in Atmega 8
- idle
  - ADC noise reduction
  - power down
  - none of the above
19. In inbuilt ADC of Atmega 8, minimum value represents ground and maximum value represents
- A Ref
  - $AV_{cc}$
  - 2.56v
  - voltage on ARef minus 1 LSB
20. IWI allows maximum of \_\_\_\_\_ number of devices to connect.
- 128 devices
  - 64 devices
  - 8 devices
  - none of the above
21. In Atmega 8, SPI bus can be used to program
- flash memory
  - EEPROM memory
  - both a and b
  - none of the above
22. The equation for setting Baud rate in Baud rate register is
- $$\text{Baud} = \frac{f_{osc}}{16(\text{UBRR} + 1)}$$
  - $$\text{Baud} = \frac{f_{osc}}{16(\text{UBRR} - 1)}$$
  - $$\text{Baud} = \frac{f_{osc}}{32(\text{UBRR} + 1)}$$
  - $$\text{Baud} = \frac{f_{osc}}{32(\text{UBRR} - 1)}$$
23. Input capture function is carried out in Atmega 8's
- Timer 0
  - Timer 1
  - Timer 2
  - None of the above

24. MOSI means
- a) Master out slave input      b) Master in slave output  
 c) Memory out strobe input    d) Memory input strobe output
25. The conversion time of ADC0809 is
- a) 100 ms                              b) 150 ms  
 c) 100  $\mu$ s                             d) 150  $\mu$ s
26. Setting time of DAC 0808 is
- a) 150  $\mu$ s                                b) 150 ms  
 c) 150 ns                                d) 150s
27. Stepper motor is preferred in robotics because
- a) consumes less power              b) compact in size  
 c) has ability to move in steps      d) all of the above
28. Whenever inductive load or relay is interfaced with microcontroller problem of induced emf is avoided by using
- a) flywheel diode                      b) capacitive compensation  
 c) inductance with high              d) none of the above  
     resistance
29. Number of I/O ports present in Atmega 8
- a) 3    b) 4  
 c) 1    d) 2
30. In the following 'C' program else goes with which condition  
 PGM:
- ```

    if (n > 0) {
        if (a > b)
            z = a;
        } else {
            z = b;
        }
  
```
- a) n>0                                      b) a>b  
 c) else is independent of if      d) none of the above

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